

Title: The 2016 NYS Field Crops Weekly Pest Report and Evaluation

Project Leaders:

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Cooperators: Cornell Cooperative Field Crop Extension Educators and Faculty

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Abstract

The NYS Field Crop Weekly Pest Report provides timely pest information to field crop extension educators and agricultural professionals. The report compiles weekly pest and crop observations collected by field crop extension personnel across NYS. In addition, the weekly report provides a vehicle to disseminate other relevant IPM information such as pest identification, scouting techniques and a calendar with suggestions for pest management activities. The pest report is distributed as a Cornell Cooperative Extension Blog <http://blogs.cornell.edu/ipmwpr/>. Subscribers (134) to this blog include: Extension Educators, crop consultants, growers, agribusiness, and Cornell University Faculty. We also place the blog link on the NYS IPM facebook page (614 followers) and NYS IPM Field Crops Twitter account (390 followers). Twenty issues of the NYS Weekly Pest Report were published in 2016. Extension Educators and crop consultants utilize the Weekly Report as an overview of timely pest information, and have found the report useful in alerting their local clientele regarding pest management issues. Results from an evaluation survey indicate users extended articles from the report to approximately 5000 individuals by republication in newsletters or forwarding the report on their own list server. Many crop consultants who responded indicated they used pest report information directly with growers.

Background and Justification

The NYS IPM Field Crops Pest Report is designed to inform growers, Extension Educators, crop consultants, agricultural professionals on items of immediate pest management concern and provide a convenient news summary that can also be used in an outreach multiplier capacity with their clientele. The report is a compilation of recent pest observations, potential geographic areas or cropping scenarios affected and the amount and potential significance of observed or anticipated pest infestations. The pest report is short, concise and contains links to pest identification photographs and additional management information. Much of the pest alert information is obtained through a weekly conference call with field crop extension educators.

Extension Educators and crop consultants are responsible for providing their clientele with timely information to help enhance crop and pest management decisions. The report provides educational information that can be used in programming, newsletters, list-serves and outreach efforts. Readers can select the pest information that best fits their county situation and clientele's needs.

The report, now in its 15th year of publication, was developed by the NYS Livestock and Field Crop IPM Program Team with the involvement of field crop extension educators and faculty across NYS. The pest report is distributed electronically through a Cornell Cooperative Extension Blog

<http://blogs.cornell.edu/ipmwpr/>.

Objectives:

1. Provide current pest information to field crop extension educators, crop consultants, growers, agribusiness, and Cornell Faculty on a weekly basis
2. Evaluate the impacts of the weekly pest report

Procedures:

The NYS IPM Program Livestock and Field Crop (LFC) team worked with extension educators to identify timely pest and crop management issues. The LFC team collaborated with Extension Educators and crop consultants from across NYS who shared their local pest and crop observations. The LFC Team prepared the report based on anticipated pest occurrence and feedback on timely field observations. Many of these field observations were communicated by extension educators via a weekly field crop IPM conference call. The report used a concise newsletter format and targeted educational articles. The LFC Team was responsible for developing, compiling and publishing the Weekly Pest Report. Regular features of the weekly report included a view from the field, weather outlook, timely updates on current pest issues such as fusarium head blight, western bean cutworm, growing degree days and alfalfa weevil & black cutworm life stage predictions, livestock pest updates, articles highlighting critical, timely or emerging pest issues and a clipboard checklist highlighting suggested activities for the following week. Photographs and internet links to identification pictures and in-depth management practices were provided within articles when possible.

The information was formatted into the weekly report and shared with clientele via the NYS IPM Weekly Field Crops Pest Report Blog Site <http://blogs.cornell.edu/ipmwpr/>. The weekly report blog link was also posted on our facebook (<https://www.facebook.com/NYSIPM>) and twitter pages (<https://twitter.com/NYSFieldCropIPM>).

At the completion of the growing season, subscribers to the WPR blog were invited to complete a survey to evaluate usefulness and the potential impact of the 2016 NYS Field Crop Weekly Pest Report. The evaluation survey was conducted using google forms on-line survey. An email was sent to subscribers of the blog and on the In-house Cornell Field Crops Staff list-serve and the General Cornell Field Crops list-serve. We did not send notice by twitter or Facebook because many of the followers are not from NY.

Results and Discussion:

This was the 15th season of the Weekly Field Crop Pest Report (WPR). The report moved from a list serve email newsletter to a blog format which allowed an easier, more time-efficient means to post the newsletter, an automated self-subscription feature, automatic archiving and easy article retrieval (<http://blogs.cornell.edu/ipmwpr/#>). One hundred and eighteen individuals including extension educators, private consultants, agribusiness and growers currently subscribe to the WPR. Twenty issues were released this season between May 5 – September 26, 2016. The WPR newsletter template contains several standard sections: a view from the field summarizing pest observations made and shared for that week, a weather forecast for the next week's weather (contributed by the Northeast Climate Center at Cornell), 1 or more timely articles on pests of importance and a weekly checklist of suggested IPM activities for the following week.

Trends In 2016

- Cereal Leaf Beetle is an issue in spring oats and some small grains this year.
- True armyworm infestations were moderate this year with issues on corn, forages and small grains in the across the state.

- Potato Leafhopper was widespread across the state and caused some economic losses on alfalfa this last summer with the combination of drought.
- There was a decrease in western bean cutworm populations in pheromone traps in NY but damage to corn increased.
- Two spotted spider mites were an issue with soybeans across the state.
- Small grain rust were a problem across the state this year.

The weekly pest report helped field crop producers and others keep informed on current status of statewide pest issues and provided a forum for detailed discussions on a variety of topics including: updates on the Fusarium Head Blight prediction model and fungicide use decision making (wheat), corn fungicide use considerations, western bean cutworm updates on risk to field corn and dry bean, weed management recommendations and decision making, vertebrate damage to field crops, sharing of timely resources and field monitoring reminders.

The 2016 report contained a total of 125 individual articles addressed different pests that include a wide variety of field crop insects, plant diseases, weeds, and vertebrate pests of concern this past season.

An index of the insect, disease, weed and “other” pest topics that were presented in the 2016 weekly pest report is provided in Appendix1.

Weekly Report Evaluation:

To obtain feedback on the effectiveness of the weekly pest report our users were invited to respond to a online survey questionnaire. Evaluation questions ranged from “How useful was the pest report?” to “What did you like the most about it?” The survey questionnaire can be viewed at: [NYS IPM Weekly Field Crops Pest Report Impact Survey](#). Thirty-nine individuals completed the online survey. Survey responses were very positive indicating satisfaction with the Report’s content, format, timeliness, and usefulness as a source of valuable subject matter information for use in additional outreach situations. The following tables and figures summarize responses to survey questions:

Table 1: Responses to “We are interested in your assessment of the usefulness of the following topic items that regularly appeared in the Field Crops IPM Weekly Pest Report.”

	Very Useful	Somewhat Useful	Not sure	Not Useful	Not at all useful
The NYS 2016 Weekly Field Crops Pest Report was:	47%	50%	3%	0%	0%
View from the field	53%	44%	3%	0%	0%
Weather Outlook	20%	47%	27%	6%	0%
Weekly Featured article(s)	40%	53%	7%	0%	0%
Pest Images / Photographs	77%	23%	0%	0%	0%
Western Bean Cutworm Update	30%	57%	13%	0%	0%
Growing Degree Days	40%	47%	10%	3%	0%
Clipboard Checklist	20%	53%	17%	7%	3%

Table 2: Responses to by participants on the impacts of the pest report.

	Yes	No
Have you used or shared articles from the NYS Weekly Field Crops Pest Report in your newsletters/email list server or social media?	33	67

Results from the evaluation survey indicate users extended articles from the report to approximately 2000 individuals by republication in newsletters or emails. Many extension educators and crop consultants who responded indicated they used pest report information directly with growers. These included: field meetings with growers, one on one contact with growers, as forwarded emails to growers and agribusiness personnel, enhanced personal knowledge of what pest problems are occurring in NYS, and providing a direct internet link from to pest report article topics to related website resources.

Table 3: How do you access or receive the NYS IPM weekly field crops pest report:

Email Field Crops list-serve	97%
NYS IPM Field Crops Pest Report Blog site notice	20%
NYS IPM Field Crops Twitter	7%
NYS IPM Facebook page	3%

Table 4: Demographics on those that use the pest report

Farmer/Producer	23%
Extension Educator	37%
Professional Crop/Farmer Consultant	30%
Government Agricultural Professional	
Non-Profit Agricultural Organization	
Other	17%

Table 5: Assessing future needs of field crop and livestock cliental: “What online resources would be useful to you?”

N=30	Very Useful	Somewhat Useful	Not sure	Not Useful	Not at all useful
Short on-line demonstration videos (You Tube) on specific pest issues	43%	37%	17%	3%	0%
Downloadable IPM brochures	43%	33%	17%	7%	0%
Downloadable IPM management pocket guides	47%	40%	7%	6%	0%
Pest images and identification information	73%	20	4%	3%	0%
IPM Phone Apps	33%	17%	23%	7%	20%
Use Twitter to disseminate IPM information	7%	3%	40%	20%	30%
Use Facebook to disseminate IPM information	3%	20%	33%	17%	27%

Several 2016 pest issues were particularly significant and worthy highlighting:

Highlight 1: Western bean cutworm (WBC) poses risk to corn (field, sweet) and dry bean production. This insect, a native of western US high plains states, was unique to that area until the late 1990's. Since then it's range has expanded eastward and was first detected in NY, PA and Quebec in 2009, CT in 2010 and MA, ME and VT in 2011. The NYS trapping network has revealed western bean cutworms are widely distributed across the state and populations are increasing, posing a potential risk to dry beans and the over 3.5 million acres of corn grown in NY, PA, and VT. We keep clientele informed weekly by having an update in each issue of the pest report.

The NYS trapping network has shown that WBC trap catches have nearly doubled each year until 2016. Higher WBC counts have occurred in northern and western NY counties. In 2015 there was 92 traps that caught an average of 266/WBC trap. Cattaraugus, Chautauqua, Erie, Franklin, Jefferson, Lewis, Wyoming and Yates counties were at or above this average. The total catch per trap ranged from 0 to 1688 moths per trap. In 2016 there was 101 traps that caught an average of 193/WBC trap. Cattaraugus, Chautauqua, Erie, Franklin, Jefferson, Lewis, Wyoming and Yates counties were at or above this average. The total catch per trap ranged from 0 to 1662 moths per trap. The number of moths captured was down but still the second largest catch on record in NY. While the catch was down damage was up. In research trials in Northern NY show as much as 20 percent damage ear in both conventional and Bt Hybrids. There were some corn fields in Northern NY that had economic loss. In addition to potential yield losses, WBC injury to corn may pre-dispose ears to infection by fungi including those that can produce mycotoxins.

Highlight II: The hot-dry summer created a perfect situation for potato leafhopper and 2 spotted spider mite infestations. Statewide potato leafhopper (PLH) infestations on alfalfa were moderate to very high. Many alfalfa fields were over threshold for PLH over the course of the summer. In some cases PLH populations were 5 times the normal economic threshold. Two spotted spider mites infest soybeans with it is hot and dry. Many fields of soybeans had high levels of mites. Many soybean fields were over economic threshold levels. In response to these populations were developed educational information for extension educators and crop consultants on PLH in alfalfa and spider mites in soybeans. In turn educators and consultant firms took the information and educated growers how to correctly identify the pests and monitor fields to determine if infestation levels were at an economic threshold. In many cases fields avoided being sprayed because they were correctly scouted and determined that they were not over threshold for PLH or spider mites.

Highlight III: True Armyworm (AKA Common Armyworm) was found spotty to moderate levels around NYS in forage grasses, small grains and corn this growing season in several areas of NY. This is a migratory insect pest that travels on weather fronts from the South and Midwest. The NYS field crops IPM team had been monitoring reports on armyworm from other states throughout the spring. It was being reported at moderate to high levels in several other states. We were able to alert extension field staff and crop consultants about the potential of the infestation. Many extension educators and crop consultants were able to educate the growers on correct identification and how to access a population in the field. In some cases growers were able to avoid spraying the fields because the armyworm population was below the economic threshold. Growers also were able to save their crop when populations were over threshold.

The weekly pest report (WPR) is distributed on a Cornell Cooperative Extension Blog site <http://blogs.cornell.edu/ipmwpr/>. Subscribers to this blog include: Extension Educators, crop consultants, growers, agribusiness, agricultural professionals and Cornell University Faculty. We also place the blog link on the NYS IPM facebook page (<https://www.facebook.com/NYSIPM>) (521 followers) and NYS IPM Field Crops Twitter account (<https://twitter.com/NYSFieldCropIPM>) (357 followers). Many articles from the report were additionally used in extension newsletters that reached about 2000 people. We are reaching many growers with critical pest information and alerts weekly in NYS both through extension educators and crop consultants. Many crop consultants are using the pest report information directly with growers. A small percent of growers are starting to use the report directly for in-season pest information. We anticipate an increase in producer use of the WPR as it is being introduced and actively promoted at grower meetings. It is clear that this publication is having an impact with field crop and livestock producers in NYS. The weekly report has been an effective means to share timely Livestock and Field Crop IPM information with clientele including extension personnel, consultants, growers, and others in the agriculture community. We have been pleased with the positive feedback from clientele responding to our end of season survey. For respondent comments see appendix 2.

Samples of materials:

A link to archived NYS IPM Field Crops Pest Reports is available on-line at:
2013 to present: <http://blogs.cornell.edu/ipmwpr/>

Key Words: alfalfa, field corn, small grains, soybeans, wheat, insect pests, leaf diseases, pod diseases, root diseases, stalk diseases, stem diseases, weeds, biological control, chemical control, cultural control, demonstration/implementation (TAG), economic analysis, monitoring, research & education, IPM, integrated pest management,

Appendix 1: 2016 Field Crops Weekly Pest Report-Index of Articles

<i>Insects, Mites/Beneficial Organisms/Natural Enemies/Biological Control</i>	Articles By Dates
Alfalfa Weevil	
View From the Field	May 12 , May 20 , June 4
Alfalfa Weevil and Growing Degree Days	May 5 , May 12 , May 20 , May 27 , June 4 , June 9 , June 17 , June 23
How to Monitor Alfalfa Weevil	May 12
Black Cutworm	
View from the Field	May 12 , May 20 , May 27 , June 9 , June 17 , June 23
Black Cutworm in NY?	
Growing Degree Days	May 5 , May 12 , May 20

	May 27 , June 4 , June 9 , June 17 , June 23 , July 1
Cereal Leaf Beetle	
View From the Field	May 20 , May 27 , June 17
Cereal Leaf Beetle in Small Grains	May 20
Corn Rootworm	
View from the Field	July 28 , August 5
Know or Rootworms	July 28
Scouting for Corn Rootworm	July 28
Dung Beetles	
2016 Updated IPM Guide for Organic Dairies	June 9
Face Flies	
View From the Field	June 23
2016 Updated IPM Guide for Organic Dairies	June 9

Fall Armyworm	
View From the Field	Sept 15
Grass sawfly (Pachynematus sp)	
View from the Field	May 20
Hessian Fly	
Planting Winter Wheat? What are the Pest Concerns?	August 19
Horn Flies	
2016 Updated IPM Guide for Organic Dairies	June 9
View From the Field	June 23
House Flies	
2016 Updated IPM Guide for Organic Dairies	June 9
Barn Flies? – Early Season Efforts Will Pay Off!	May 27
Japanese Beetles	
Japanese Beetles in Soybeans	July 8
View From the Field	July 8
Lacewing	
Beneficial of the week-Lacewing	June 17
Pea Aphids	
View From the Field	July 28
Potato leafhopper	
View From the Field	June 9, June 23, July 1, July 8, July 18, July 22, July 28
Time to Scout for Potato Leafhopper in Alfalfa!	June 9
Partial Alfalfa Field Harvest Increases PLH risks	July 22
Seed Corn Maggot	
Seed Corn Maggot: Organic and Conventional IPM in Field Corn	May 5
Degree Days	May 12, May 20, May 27, June 4, June 9, June 17, June 23, July 1
Quantifying Row Crop Plant Populations	June 4
Soybean Aphids	
View from the Field	July 8
Scouting Soybean Aphid	July 8
Spider Mites (2 spotted)	
View From the Field	July 28, August 5, August 19, August 26

2 Spotted Spider Mites in Soybeans	August 5
Stable Flies	
View from the Field	July 1
2016 Updated IPM Guide for Organic Dairies	June 9
Stable Flies are Here	July 1
Stored Grain Pests	
Storing grain... Remember Pests!	Sept 15
Syrphid Fly	
Beneficial of the Week-Syrphid Fly	June 9
True Armyworm	
View from the field	May 12, May 27, June 4, June 9, June 17, June 23, July 1
Armyworm Alert	June 23
Western Bean Cutworm	
View from the Field	August 19
Western Bean Update	July 18, July 22, July 28, August 5, August 19, August 26, Sept 6, Sept 15
Wireworm	
Quantifying Row Crop Plant Populations:	June 4, June 17
Wireworm in Field Corn	June 17
White Grub	
Quantifying Row Crop Plant Populations:	June 4
Miscellaneous Insects	
A Mild Winter and Insect Pests in Field Crops....?	May 5
“Beneficial” Tip of the Week	May 5
Plant Diseases	
Corn-Plant Diseases	
Anthraxnose stalk rot	
Stalk Rots in your Corn?	August 26
Cladosporium Ear and Kernel Rot	
What’s in your Ears?	Sept 6
Damping Off	
Quantifying Row Crop Plant Populations	June 4
Diplodia ear rot	
What’s in your Ears?	Sept 6

Diplodia stalk rot	
Stalk Rots in your Corn?	August 26
Fusarium Ear Rot	
What's in your Ears?	Sept 6
Fusarium stalk rot	
Stalk Rots in your Corn?	August 26
Gibberella ear rot	
What's in your Ears?	Sept 6
Gibberella stalk rot	
Stalk Rots in your Corn?	August 26
Gray Leaf Spot	
Gray Leaf Spot in Field Corn	August 26, Sept 6
What's in your Ears?	Sept 6
Pythium stalk rot	
Stalk Rots in your Corn?	August 26
Seed Decay	
Quantifying Row Crop Plant Populations	June 4
Soybean-Plant Diseases	
Charcoal Rot	
Charcoal Rot in Soybeans	August 19
Damping off	
View from the Field	June 17
Frost Damage	
View from the Field	May 5
Phytophthora Root Rot	
View From the Field	July 22
Northern Stem Canker	
View From the Field	July 28
Seedling Diseases	
Soybean Seed Rots and Seedling Blight	June 17
Wheat and Small Grains-Plant Diseases	
Barely Yellow Dwarf	
Planting Winter Wheat? What are the Pest Concerns?	August 19
Fusarium head blight	
View from the Field	May 27
Fusarium head blight Update	May 20, May 27
Leaf, stem and strip rust	
Update	May 27
Early Season Foliar Diseases of Small Grains	May 12
View From the Field	June 4
Powdery mildew	
Early Season Foliar Diseases of Small Grains	May 12
Root Rot	

Planting Winter Wheat? What are the Pest Concerns?	August 19
Seed Rot/Damping off	
Planting Winter Wheat? What are the Pest Concerns?	August 19
Septoria tritici Blotch	
View From the Field	May 5,
Stagonospora nodorum blotch	
View from the Field	May 5
Early Season Foliar Diseases of Small Grains	May 12
Planting Winter Wheat? What are the Pest Concerns?	August 19
Stored Grain Pests	
Storing grain... Remember Pests!	Sept 15
Weeds	
Weed Issues	
Weed of the Week-Purple Deadnettle (<i>Lamium purpureum</i>)	May 27
Livestock pests	
Barn Flies	
Barn Flies? – Early Season Efforts Will Pay Off!	May 27
2016 Updated IPM Guide for Organic Dairies	June 9
Dung Beetles	
2016 Updated IPM Guide for Organic Dairies	June 9
Face Flies	
2016 Updated IPM Guide for Organic Dairies	June 9
View From the Field	June 23
Horn Flies	
2016 Updated IPM Guide for Organic Dairies	June 9
View From the Field	June 23
House Flies	
Barn Flies? – Early Season Efforts Will Pay Off!	May 27
2016 Updated IPM Guide for Organic Dairies	June 9
Stable Flies	
2016 Updated IPM Guide for Organic Dairies	June 9
Vertebrate and Other	
View From the Field -birds	May 12
Quantifying Row Crop Plant Populations:	June 4
Avipel Seed Bird Repellent Bird Study Update	June 23

Storing grain? Not too early to think about protection from post-harvest insect pests	June 23
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Pest Records Help with the Future	Sept 15
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Appendix 2: Responses to questions in the impact survey

Did the NYS IPM Weekly Field Crop Pest Report help with an issue you needed help with?

Yes, weed control discussions
Helps identify emerging pest issues. Provides an early alert system with good pictures that are helpful in identification and supportive information on control.
I am an extension entomologist in another state and I like to stay up to date with the status of pests in New York, particularly western bean cutworm.
I am an Admin Assistant and just read for our newsletters, but yes, it helps.
Keeps me informed
Yes I work at a hop farm in Erie County and it prepared us for the 2-spotted spider mites.
Yes, helps me with current issues.

What did you like most about the NYS IPM Weekly Field Crops Pest Report?

Weather maps and forecasts
Other staff members' reports and guest speakers
View from the field, pics and articles
Notes about diseases, insect problems, weather issues
Western Bean Cutworm project updates
View from the field is always helpful and good to see what is going on throughout the state.
Keeping up to date on what's going on around the state.
Input from Extension Agents to stay up to date on current activities
Good group of knowledgeable people.
It is current
Featured timely pest management features.
Warnings of what pests were active.
Up to date issues.

What else would you like to see in the NYS IPM Weekly Field Crops Pest Report?

More guest speakers on emerging issues
Comments on related topics including nutrient management, weed control, timing of harvest etc
More on weed management
Clipboard checklists as word documents so I can edit and use as needed.
Is there an opportunity to combine with Penn State's weekly field crops newsletter content?
More on beer crops (malts, barley, hops, grains)